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Applicant(s): ELEFThERIOU, Andreas et al.
Agent Docket No.: 2993-486US SC/ip
Serial No.: 10/628,556
Filed: July 29, 2003
Confirmation No.: 1804
Title: TURBOFAN CASE AND METHOD OF MAKING
Examiner: KIM, Tae Jun
Art Unit: 3746

PRE-APPEAL BRIEF REQUEST FOR REVIEW

The Applicant requests a pre-appeal brief review of the final rejection in the above-identified application. The Pre-Appeal Brief Request for Review is being filed concurrently with a Notice of Appeal. In support of the request, the Applicant attaches hereto form PTO/SB303 - Pre-Appeal Brief Request for Review, together with sheets of accompanying arguments.

The Applicant believes that no fee is required for filing the Pre-Appeal Brief Request for Review; however, should any fee be required, the Commissioner is hereby authorized to charge the prescribed fee to Deposit Account Number 195113.


Respectfully submitted,

Andreas ELEFThERIOU et al.

By:

April 13, 2006

Date

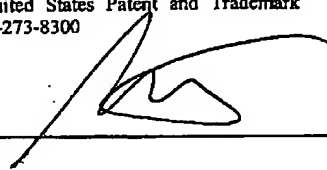


Sébastien CLARK, Registration No. 56,651
Agent of Record
OGILVY RENAULT LLP
1981 McGill College Ave.
Montreal, Quebec, Canada H3A 2Y3
Tel: (514) 847-4259
Fax: (514) 288-8389

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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 2993-486US SC/ip	
I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office to Fax. No. 571-273-8300 on April 13, 2006  Signature _____ Typed or printed name <u>Sébastien Clark</u>		Application Number 10/628,556	Filed July 29, 2003
		First Named Inventor ELEFThERIOU, Andreas	
		Art Unit 3746	Examiner KIM, Tae Jun
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
I am the <input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> attorney or agent of record. 56,651 Registration number _____ <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____		 Signature <u>Sébastien Clark</u> Typed or printed name (514) 847-4259 Telephone number April 13, 2006 Date	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
<input type="checkbox"/> *Total of <u>1</u> forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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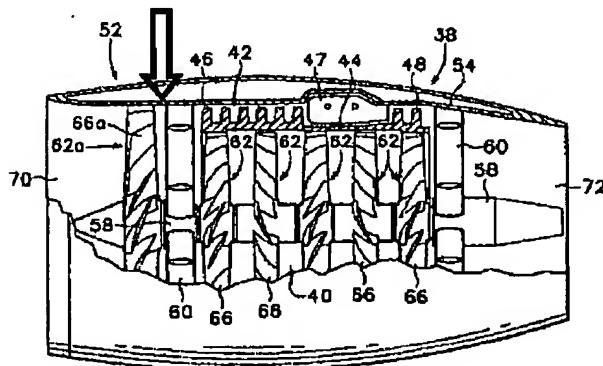
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PRE-APPEAL BRIEF ARGUMENTS:

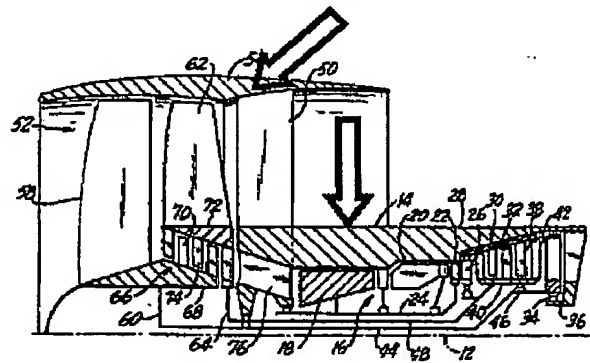
The interpretation given to the prior art is not supportable in view of all the surrounding facts, and hence the claim rejections lack proper support.

The independent claims in question (1, 7, 12) may be grouped broadly as being directed to an integrated or single-piece turbofan case.

The cornerstone of all independent claim rejections is an allegation that the schematic figures of the primary references "appear" to disclose a integrated turbfan case. The figures in question show an unbroken line/area as representing the engine case (large arrows added for clarity):



Springer (US6,532,731)



Stuart (US4,790,133)

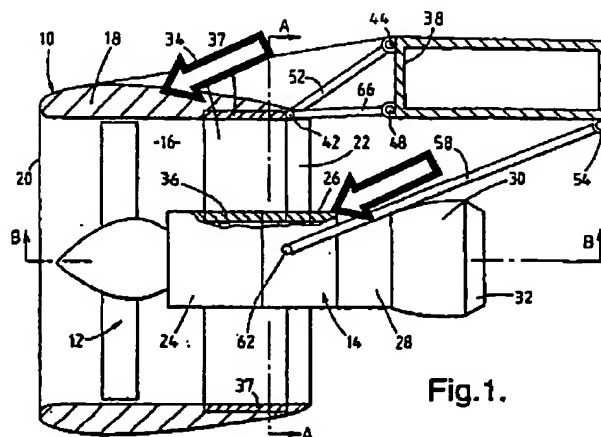


Fig. 1.

Udall (US5,409,184)

The interpretation given to the primary references is improper because:

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1. There is no text supporting the alleged teachings. Springer and Stuart do not have any text discussing case construction, and neither is directed to case construction at all. Udall likewise does not discuss the construction of the fan & core casings to which the frame is joined.
2. The figures of all three references are schematic and, at best, equivocal. It is usual in schematic drawings to simplify irrelevant features for description purposes - and case design is irrelevant to these references. The skilled reader would therefore understand that the turbofan case shown in the figures is not fully described, and that the case is therefore intended to be conventional - see paragraphs 4 & 5, below for more on conventional cases.
3. The Courts have stated that: (i) It is improper to "magnify a common drafting practice...into an alleged suggestion of [the claimed invention] through the exercise of hindsight" *In re Klein*, 26 USPQ2d 1133 at 1136 (Fed. Cir. 1993), (Emphasis added) - simplifying features in schematic figures is just such a common drafting practice; and (ii) The drawings are merely helpful in determining whether the prior art included a specific feature within its teachings. *Afros S.p.A. v. Krauss-Maffei Corp.* 5 USPQ2d 1145 (D. Del. 1987), (Emphasis added). The drawings must be interpreted in keeping with the specific teachings of the reference as a whole.
4. It is well known that turbofan cases are segmented & bolted together, as shown by the totality of the prior art before the Examiner. This is done purposely for various reasons, such as to facilitate engine assembly, maintenance and repair, alleviate thermal mismatch and other reasons documented in the prior art. See, for example, US Patent No. 5,299,910, in which the compressor stage portion of a turbofan case is discussed (column 1, line 33ff):

"Outer casings of compressors typically fall generally in three different prior art design categories: a split line 180° assembly, a sector assembly, and a bolted stage assembly".
5. It is normal in the field of turbofan case design to depict a multi-piece engine case schematically in a manner similar to the figures of Springer, Stuart and Udall. See, for example, US Patent Nos. 5,357,744 and US 5,899,660, shown in Appendix A below, which clearly demonstrate that a simplified schematic alone does not teach a single integrated turbofan case. See, also, the applicant's supplemental Information Disclosure Statement filed on April 12, 2006 for many examples of this same common practice. The skilled reader must be assumed to be knowledgeable of all common practices in the art, including the ways in which the art is commonly described in patents.
6. "There is no *per se* rule that making something into one piece that was formerly made in two or more pieces renders it obvious. Rather [one] must look beyond the mere fact of unitary construction to determine...whether the improvement or construction itself was obvious from the prior art." *Indecor Inc. v. Fox-Wells & Co.* 1 USPQ2d 1847 (S.D.N.Y. 1986). (Emphasis added).
7. The turbofan engine has been in existence for at least US Patent No. 2, 2404334 to Whittle (which shows a multi-piece case) - it cannot be simply asserted, without support, that something not done in 60 years is just "obvious" to do.
8. It is noted on page 7 of the Office Action that the "*applicant presumes that because multi-piece casings are conventionally used in the art, that there are no integral cases. To assume the contrary, one's knowledge of the art would have to be infinite to cover the*

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entire spectrum of the prior art". Applicant respectfully notes, however, that there are likewise no presumptions which favour the rejection of claims when it comes to demonstrating what exists in the prior art. Other than Springer, Stuart and Udall - which Applicant demonstrates herein have been incorrectly applied - no prior art teachings support the Examiner's position.

9. "With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a prima facie case of obviousness) is more probable than not." M.P.E.P. 2142 (Emphasis added). In light of the Applicant's responses previously and herein, the PTO has not discharged its burden.
10. It is further noted on page 7 of the Office Action that the references relied upon "do not preclude integral joining". However, this is not the correct threshold to apply, and perhaps indicates that the rejections rely improperly on hindsight.
11. Therefore, the applicant respectfully submits that the interpretation given to the primary references is not supported, and the rejections are therefore improper.

The following additional observations are made regarding the prior art:

Springer (US6,532,731)

Springer shows, in Figure 1, a "prior art" turbofan in which the case is an unbroken structure, in a similar way that the case of Springer's invention in is depicted. This would lead the skilled reader to determine there is nothing remarkable about Springer's case relative to the prior art.

There are many design "flaws" in Springer's case which would convince the skilled reader that the figures are not intended to disclose any actual case design. For example, the cylindrical sections of inner wall 54 upstream of the combustor would not be sufficiently rigid against buckling to support the engine - it is well known that stiffening features are required in turbofan case designs. Also, close proximity of the inner wall 54 to combustor 47 would result in relative thermal expansion between the various portions of the wall 54, causing buckling if provided as drawn. In both cases, the skilled reader would understand that Springer does not intend to teach anything about case construction, since many simple design principles are ignored (or, more accurately, intentionally omitted).

Stuart (US4,790,133)

If taken at face value, Stuart's figures disclose a solid fan & intermediate cases mounted to a solid compressor and turbine case. The device would be very heavy indeed. The skilled reader would recognize that no turbofan engine would ever be designed as depicted, and that Stuart does not contribute anything to the art of turbofan case design.

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Udall (US\$409,184)

The core casing is not fully depicted in Udall, nor is it or the fan casing discussed. There is no support for the allegation that the core casing or fan casing are themselves integral or one-piece structures, regardless of any integral connection to the frame.

Furthermore, although the members 36 and 37 are "integrally formed with, or secured to" the respective casings, a few lines earlier the spokes 34 are taught as being only "secured at their radially inner ends" to member 36 and "connect[ed at their] radially outer ends" to members 37 (column 3, lines 47-53), clearly omitting integration as an option in both cases. Thus, by comparison, Udall teaches that spokes 34 cannot be integrally provided with members 36 and 37, and thus cannot teach an integrally joined fan and core casings, as alleged.

Conclusion

Therefore, in view of the foregoing many deficiencies in the rejections of the present claims, the Applicant respectfully requests to appeal the rejections, and requests that the rejections be withdrawn.

Signed,



Sébastien Clark, Registration No. 56,651

Agent of Record

OGILVY RENAULT LLP

1981 McGill College Avenue, Suite 1600

Montreal, Quebec, Canada H3A 2Y3

Tel.: (514) 847-4259

Fax: (514) 288-8389